

**PATENT****REMARKS**

Before this Amendment, claims 1-24 were pending. In the above amendments, claims 1, 8, 9, and 13 have been amended, claims 4-7, 10-12, and 14-24 have been canceled without prejudice, and new claims 25-34 have been added. Claims 1-3, 8, 9, 13, and 25-34 are now pending in the present application.

In the Office Action mailed March 10, 2005, the Examiner rejected claims 1, 3, 4, 10, 12-16 and 19 under 35 U.S.C. §102, as being anticipated by Bucher et al. (US 5696797) ("Bucher") and rejected claim 2, 6, 8, 9, 17 and 18 under 35 U.S.C. §103, as being unpatentable over Bucher in view of Heikkila et al. (US 6700926) ("Heikkila"). Applicant respectfully submits that the amended claims and the new claims are allowable over the art cited.

The Examiner objected to claims 5, 7, and 11 and indicated that these dependent claims would be allowed if rewritten in independent form to include the limitations of the base claim and any intervening claims. Applicant has amended claim 1 to include the limitations of dependent claim 5 and intervening claim 4. Further, the amendments address the Examiner's objection to claim 4. Accordingly, applicant respectfully submits that claim 1 is allowable. Claims 2, 3, 8, 9 and 13 depend from claim 1 which is allowable. Claims 9 and 13 have been amended in accordance with the Examiner's suggestions in objecting to claims 7, 11, and 13. Applicant submits that claims 2, 3, 8, 9 and 13 are at least allowable as depending from an allowable base claim.

Applicant respectfully submits that all of the limitations of any one of new claims 25-34 are not shown in any combination of the art cited and that these claims are allowable. Referring to claim 25 as a representative claim of new claims 25-34, claim 25 recites: "a first phase rotator configured to phase rotate a signal to partially reduce a phase error of the signal and produce a first phase rotator output signal. . . and a second rotator configured to phase rotate the signal to further reduce the phase error of the signal by adjusting the phase over each segment". Applicant respectfully submits that these elements are not shown in any of the cited references. Bucher discusses an apparatus with base band Doppler frequency shift compensation using single phase

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rotator. Bucher does discuss a first phase rotator that partially reduces phase error of a signal and a second phase rotator that further reduces the phase error by adjusting signal phase over a segment of the signal. Heikkila discusses a method for optimizing a bit-to-symbol mapping operation and does not suggest using phase rotators for finding a frequency. Gutierrez discusses a CDMA communication system and does not suggest using phase rotators for finding a frequency.

**Drawings**

Applicant submits formal drawings to replace the originally filed informal drawings. The replacements drawings do not make any substantive changes or introduce any new material.

**REQUEST FOR ALLOWANCE**

In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

Dated:

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By:

George C. Pappas 44,999 for  
George C. Pappas, Reg. No. 35,065  
858-651-1306

QUALCOMM Incorporated  
5775 Morehouse Drive  
San Diego, California 92121  
Telephone: (858) 658-5787  
Facsimile: (858) 658-2502

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